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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/535,135

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Takahiro Tsutsui

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

HIGGINS, GERARD T

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

11/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,135	Applicant(s) TSUTSUI ET AL.	
	Examiner GERARD T. HIGGINS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/29/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicants' amendment filed 09/29/2008 has been entered. Currently claims 1 and 3-6 are pending and claim 2 has been cancelled.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 and 3-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner does not find support for the new range "of 1 to less than 10 wt. %" presented in amended claim 1. The Examiner does not find support for this new limitation at the places mentioned by applicant, and furthermore, the Examiner directs applicants' attention to page 5, lines 22-24 and page 15, lines 2-9 where applicants' specification clearly states the percentage of thiodipropionic acid or said salt thereof and tocopherol or said derivative thereof is from 1 to 20 wt. % based on the proportion of the inorganic pigment.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhotra et al. (6,444,294) in view of Tsuchida et al. (JP 2002-103807), machine translation included.

With regard to claim 1, Malhotra et al. disclose a recording medium, wherein on a first surface there is a first coating composition (col. 14, lines 41-48). The first coating composition can comprise *inter alia* a water-soluble resin binder, an inkspreading/ink wetting agent, a lightfastness-imparting agent, and filler.

The water-soluble binder is disclosed at col. 16, line 5 to col. 18, line 46.

The inkspreading/ink wetting agent is taught at col. 18, line 47 to col. 19, line 67, and they perform the same function as the tocopherol or a derivative thereof seen in applicants' claim 1. Malhotra et al. teach α -tocopherol acetate and also plain Vitamin E at col. 19, lines 62-63.

The filler is taught at col. 23, line 65 to col. 25, line 44 and comprises inorganic pigments as seen at col. 24, lines 48-59, including *inter alia* hydrated alumina and titanium dioxide.

The lightfastness-imparting agent (antioxidant) is taught at col. 20, line 61 to col. 23, line 64 and it includes ester derivatives of thiodipropionic acid at col. 22, lines 15-26; however, Malhotra et al. fail to teach using a lightfastness-imparting agent of thiodipropionic acid or a salt thereof.

Tsuchida et al. teach an inkjet recording medium that has a lightfastness-imparting agent, specifically thiodipropionic acid (Abstract, [0008]-[0009]).

Since Malhotra et al. and Tsuchida et al. are both drawn to inkjet recording materials with lightfastness-imparting agents; it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the thiodipropionic ester lightfastness-imparting agents of Malhotra et al. with the thiodipropionic acid lightfastness-imparting agents of Tsuchida et al. The results of which would have been predictable to one having ordinary skill in the art. Specifically, the reduction in the discoloration of inks over time.

With regard to percentage of thiodipropionic acid or said salt thereof and tocopherol or said derivative thereof based on said inorganic pigment, the disclosure of Malhotra et al. at col. 16, lines 5-17 (binder), col. 18, lines 47-55 (ink spreading/wetting agent), col. 20, line 61 to col. 21, line 2 (lightfastness-imparting agent), and col. 23, line 65 to col. 24, line 5 (pigment) discloses typical amounts of these components; however, Malhotra et al. is clearly not limited to these amounts. Malhotra et al. state that any and all of the materials may be present "in any desired or effective amount." This includes a situation where the percentage of thiodipropionic acid or said salt thereof and tocopherol or said derivative thereof based on said inorganic pigment is from 1 to 10 %;

furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the percentage of all of the components to any amount, including those claimed, in order to arrive at a recording medium that had the proper amount of lightfastness and image sharpness.

Additionally, Malhotra et al. teach at col. 23, lines 59-61 that when the lightfastness-imparting agent is a three component mixture including an antioxidant, said antioxidant may be present at 0.25 wt. %. It is clear to the Examiner that 0.25 weight percent of thiodipropionic acid with 2 weight percent tocopherol relative to 25 weight percent filler (inorganic pigment) would result in a proportion of **9 wt. %** based upon said inorganic pigment.

With regard to claim 6, the Title of Malhotra et al. is "Recording Substrate for Ink Jet Printing."

6. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhotra et al. (6,444,294) in view of Tsuchida et al. (JP 2002-103807) as applied to claim 1 above, and further in view of Kitamura et al. (US 2001/0016249).

Malhotra et al. in view of Tsuchida et al. render obvious all of applicants' limitations of claim 1 in section 3 above; however, they fail to disclose that the hydrated alumina has a boehmite or pseudo-boehmite structure or wherein the ink-receiving layer comprises a boron compound.

With regard to claim 3, Kitamura et al. disclose boehmite or pseudo-boehmite aluminas for inkjet recording media [0089], [0090], and [0130].

Since Malhotra et al. in view of Tsuchida et al. and Kitamura et al. are all drawn to inkjet recording media; it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the boehmite or pseudo-boehmite aluminas of Kitamura et al. as the hydrated alumina of Malhotra et al. The results of such a substitution would have been predictable to one having ordinary skill; further, a motivation for making the substitution can be found in Kitamura et al. at [0089], which states that the aluminas would lead to a recording stratum having high gloss and smoothness.

With regard to claim 4, the claimed properties of the aluminum hydrates would be intrinsic in the aluminas of Kitamura et al. because they are aluminas having the same structure as claimed in claim 3.

With regard to claim 5, Kitamura et al. teach boric acid and borate salts as light-resistance agents [0167]-[0168].

Since Malhotra et al. in view of Tsuchida et al. and Kitamura et al. are all drawn to inkjet recording media; it would have been obvious to one having ordinary skill in the art at the time the invention was made to use boric acids or borate salts in the inkjet recording media of Malhotra et al. in view of Tsuchida et al. The results of such a combination would have been predictable to one having ordinary skill in the art; further, each of the elements would have performed the same in combination as they had separately. The motivation for adding the boric acid or borate salts would be to provide further light-resistance (resistance to fading) in the inkjet recording medium (please see Kitamura et al. [0167]).

Response to Arguments

7. Applicant's arguments filed 09/29/2008 have been fully considered but they are not persuasive.

Applicants are attempting to argue that Malhotra et al. does not disclose the weight percentages of amended claim 1.

First the Examiner notes that applicants are not supported for this limitation either at the places they mentioned in their Remarks or throughout the specification taken as a whole.

Second the Examiner respectfully disagrees and notes that the percentages applicants cite in their Remarks from Malhotra et al. are exemplary embodiments of Malhotra et al. Malhotra et al. clearly state that their ink wetting/ink spreading agents, lightfast-imparting agent, and filler may be present in the first coating "in any desired or effective amount" (col. 18, lines 47-55; col. 20, line 61 to col. 21, line 2; and col. 23, line 65 to col. 24, line 5). Malhotra et al. clearly leave open the possibility that the weight percentages of the various materials may be outside the exemplary embodiments mentioned at these same places. This therefore means that Malhotra et al. teach a situation wherein the percentage of thiodipropionic acid or said salt thereof and tocopherol or said derivative thereof is from 1 to less than 10 wt. % based on the proportion of the inorganic pigment.

Additionally, applicants have incorrectly interpreted the section at col. 23, lines 59-61 of Malhotra et al. where they state that when the lightfastness-imparting agent is

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a three component mixture including an antioxidant, said antioxidant may be present at 0.25 wt. %. Assuming applicants' argument concerning the preferential embodiments of Malhotra et al. being the only explicitly disclosed weight percentages, it is clear to the Examiner that 0.25 weight percent of thiodipropionic acid with 2 weight percent tocopherol relative to 25 weight percent filler (inorganic pigment) would result in a proportion of **9 wt. %** based upon said filler. It is unclear why applicants are adding the weight percentage of the antiozonant into the weight percentage of the antioxidant, or why they consider the thiodipropionic acid to be substituted for both the antioxidant **and** antiozonant compounds. The Examiner cited in Malhotra et al. where they taught an ester of thiodipropionic acid, and that compound is listed only as an antioxidant.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 9:30am-7pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerard T Higgins
Examiner
Art Unit 1794

/Gerard T Higgins/
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794